



Editorial for the special issue: “Novel solutions or novel approaches in Operational Research”

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Abstract

This Special Issues of the Business Systems Research Journal (SI of BSR), co-published by the Slovenian Society INFORMATIKA – Section of Operations Research (SSI-SOR), is focused on approaches which explore novel solutions or novel approaches in operations research, specifically in the area of business and economic systems. Operations research covers a rather broad area of theory and applications and is viewed as the use of quantitative, quantitative and analytical methods to support decision making in the private and public environment. Methods of operations research include decision analysis in a general sense of the word, economic efficiency, econometrics, optimization and simulation methods, discrete optimization methods, network methodology, game theory, stochastic processes, heuristics, etc., which might be applied to problems in number of areas such as finance, marketing, production management, logistics, planning and scheduling, education, healthcare, environmental and energy issues, natural resource management, supply chain management, sport, entertainment, social issues and other fields what makes operations research truly a global discipline. Six papers that investigate novel solutions or novel approaches in operational research contribute to this special issue.

Keywords: operational research, interdisciplinary research, novel solutions, business and economics systems

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Editorial process

A key factor and most important event of SSI-SOR have been the biannual international symposia. The 12th International Symposium on Operations Research (SOR'13) was organized in Dolenjske Toplice, Slovenia, on September 25-27, 2013. The main objective of SOR'13 has been to advance knowledge, interest and education

in OR in Slovenia and worldwide in order to build the intellectual and social capital that are essential in maintaining the identity of OR, especially at a time when interdisciplinary collaboration is proclaimed as significantly important in resolving problems facing the current challenging times. Further, when joining IFORS and EURO, SSI-SOR agreed to work together with diverse disciplines, i.e. to balance the depth of theoretical knowledge in OR and the understanding of theory, methods and problems in other areas within and beyond OR. SOR'13 has created the advantage of these objectives, has contributed to the quality and reputation of operations research with presenting and exchanging new developments, opinions, experiences in the theory and practice of operations research. The symposium was attended by approximately 150 scientists coming from the public as well as private sector all over the world; sixty papers were presented, written by 110 authors and co-authors. The papers were accepted after a blindly review process of two independent reviewers selected from the members of Program Committee of the symposium and reviewers appointed by SSI-SOR.

At SOR'13 it was agreed to publish SI of BSR including a selection of refereed journal version of papers present at the symposium in Dolenjske Toplice. The submitted papers should investigate innovative approaches to operations research theory and its applications in business, economics, management, finance, social sciences, environment, transport and other areas. The call for SI of BSR was open to participants of SOR'13 as well as to other researchers and practitioners from the field of operations research. Eight submissions for SI of BSR were received, some of them being extended journal version of short symposium papers from proceedings (Zadnik Stirn et al., 2013). Each submission was first reviewed by guest editors and then blind reviewed by two experts.

Contributions

Because the purpose of SI of BSR is also to promote specific parts of operations research and to open up new fields the six accepted papers present a wide range of methodological and application operations research approaches.

Brezavšček and Baggia (2014) present a stochastic optimization model based on the queuing theory for determination the optimal number of operators in a call center considering the given performance measures.

Drobne and Bogataj (2014) investigate a case study of the Slovenian telecommunication provider's call center is given as application of the generated model. The Intramax method for modeling, analyzing and evaluating a regional center within planning, funding and administration of health care and social protection services for old people is used. In their study regional centers of Slovenia are examined in the application of the presented methodology.

Dumičić, Žmuk and Bregar (2014) explore the benefits (financial, better and more detailed business information, and similar benefits) of the use of statistical methods in Croatian small enterprises are analyzed. The authors conducted a web survey on the sample of 631 small enterprises in Croatia and found out that most of the enterprises in Croatia do not use statistical methods in their decision process and that the use of statistical methods leads to higher net income of the enterprise.

Hell and Dragičević (2014) presents a modified version of BSC (Balanced ScoreCard) procedure which is based on linear programming is presented. The procedure is used for measuring the IS (Information System) impact on the achievements of the organizations' business goals.

Vidović, Poklepović and Aljinović (2014) have conducted the research with two objectives: to propose Relative Change in Volume (RCV) – a new improved liquidity

measure which has the ability of taking into account big differences in volume on return, and to test the relative performance of two selected liquidity measures in terms of validity on EU stock market using a single stock approach.

Zekić-Sušac, Pfeifer and Šarlija (2014) test and compare the results of four methods (neural networks, CART classification trees, support vector machines and k-nearest neighbor) used for assessing a high-dimensional classification problem of recognizing entrepreneurial intentions of students. t-test is applied to show the statistically significant difference between the methods used.

Last, but not least, we express our deep appreciation and thanks to the Editor-in-chief, professor Mirjana Pejić Bach, PhD for the generosity, knowledge, service and commitment to invite us as guest editors of SI BSR, further for their rigorous and well-written contributions, to the reviewers for their careful evaluation of submissions and their thoughtful and constructive comments. Each of these individuals deserves credit for this successful special issue of BSR.

Ljubljana, Zagreb, August 2014

Guest Editors of SI of BSR

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